Name, Lastname, Id #: 22.11.2012

Karadeniz Technical University

Faculty of Engineering

Dept. of Comp. Engineering

BİL 107 Mid Term Exam

1. List the **decimal** values of **4 bit** binary codes for unsigned, sign-magnitude, 1's complement and 2's complement representations in a table.

2. A pharmaceutical company manufactures large number of drugs from 20 ingredients. The plant is controlled by a computer which is used to calculate the amount of ingredients and control the valves to mix them. Design a logic circuit to control the valves using **3 input to 8 output decoder** integrated circuits with **2 active low** and **1 active high** chip select inputs.

3. Design output **g** of a BCD to 7 segment decoder with $X_3X_2X_1X_0$ BCD inputs.